

## ABSTRACT

A filter and processing sequence is described that efficiently combines and performs two or more tasks required to demodulate a composite 3G (third generation) wireless signal formed by a combination of wideband 3.84 MHz (UMTS or UTRA) carriers and narrowband 1.2288 MHz CDMA-2000 carriers. The three tasks, applied to each spectral component of the 3G wireless signal and described in the order of a traditional filtering structure are: Spectral translation, Bandwidth Reduction, and Sample Rate Selection. These tasks are traditionally implemented in three distinct pieces of hardware or software modules.

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